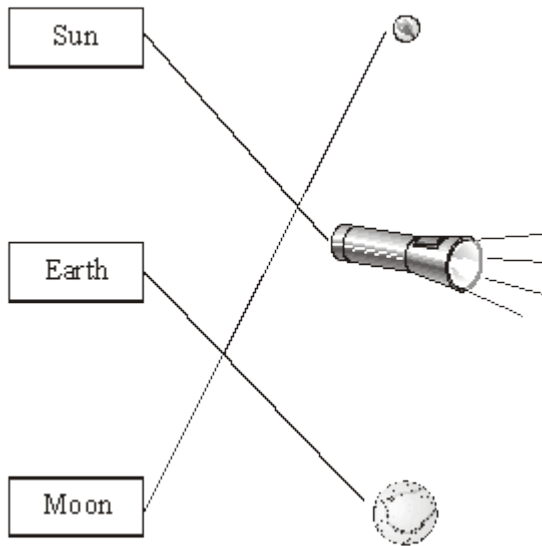


Mark schemes

1

(a) •



if all three lines are correct, award two marks
*if one **or** two lines are correct, award one mark*
if more than one line is drawn from any part of the solar system, award no credit for that part

2 (L3)

(b) •

Sun	<i>Mercury</i>	<i>Venus</i>	Earth	<i>Mars</i>	<i>Jupiter</i>	<i>Saturn</i>	<i>Uranus</i>	Neptune
------------	----------------	--------------	--------------	-------------	----------------	---------------	---------------	----------------

award one mark for the Sun in the correct position
award one mark for both Earth and Neptune in the correct positions

2 (L3)

- (c) (i) any **one** from
- weather forecasting
accept 'weather'
 - communications
accept 'phone' or 'fax'
 - telescopes
 - global positioning system
accept 'GPS'
 - TV
 - spying
accept 'taking photographs'
 - internet

1 (L4)

- (ii) • gravity ✓
if more than one box is ticked, award no mark

1 (L4)

[6]

2

- (a) • *Earth: B*
• *Sun: A*
• *Moon: C*

answers must be in the correct order
if all three answers are correct, award two marks
if one or two answers are correct, award one mark

2 (L3)

(b) any **one** from

- weather forecasting
accept 'to look at the weather'
- communications
accept 'telephone' or 'internet'
- television **or** TV
- spying
- space telescope
accept 'Hubble telescope'
accept 'to find out more about the universe'
- global positioning system **or** GPS
accept 'navigation'
accept 'monitoring the Earth'
accept 'searching for meteors or comets'

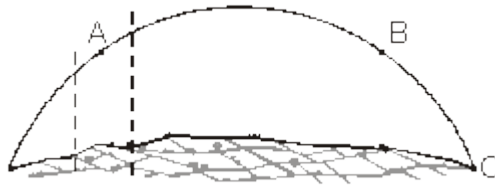
1 (L4)

(c) the Sun ✓

if more than one box is ticked, award no mark

1 (L3)

(d) (i) point A marked halfway between 5.00 am and 1.00 pm



accept any point within the tolerances shown

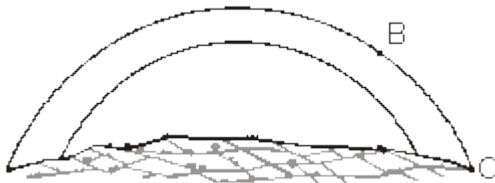
1 (L4)

(ii) 4 hours ✓

if more than one box is ticked, award no mark

1 (L4)

(e) a curve below the printed line at all points



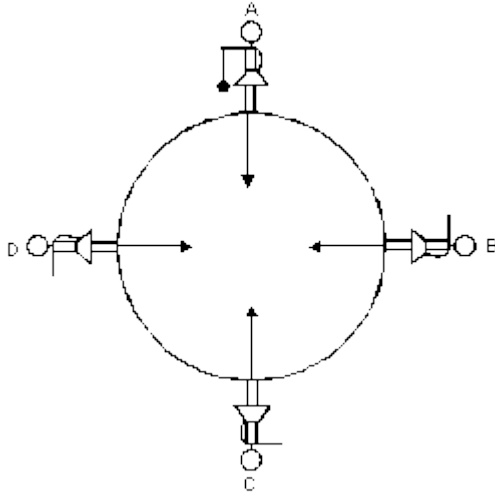
ignore arrows
the line must start and finish on the horizon
*do **not** accept a curve which begins or finishes*
at the same points as the existing curve

1 (L4)

[7]

3

(a) (i) four arrows, all towards the centre of the Earth



all four arrows, correctly drawn, are required for the mark
the arrows may be drawn outside the Earth

1 (L4)

(ii) ball hanging towards the centre of the Earth at B, C and D

all three positions, B, C and D, are required for the mark

1 (L4)

(b) (i) 365 days

accept '365'

1 (L3)

(ii) 24 hours

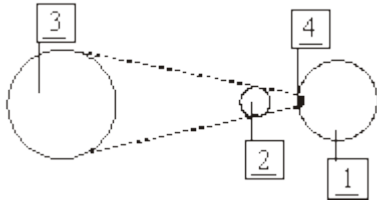
accept '24'

1 (L3)

[4]

4

(a)



for **all four** numbers in the correct place, award two marks
for any **two** or **three** numbers in the correct place, award one mark

2 (L5)

- (b) any **one** from
- 21st August
 - 22nd August
 - 23rd August
- accept dates written in another format*
- 1 (L5)
- 2017
- 1 (L5)

[4]

5

- (a) gravitational pull of the Sun **or** the Sun's gravity
- accept 'gravity'*
- accept 'weight'*
- 1 (L5)

- (b) any **two** from
- its average speed is lower
accept 'its speed is slower' or 'it travels more slowly'
 - for most of its orbit the Sun's gravity is less
accept 'the pull of the Sun is weaker' or 'gravity is less'
 - its orbit is longer
*accept 'it travels further' **or** 'the orbit is bigger'*
 - for most of its orbit it is further from the Sun
accept 'it is further from the Sun' or 'further away'
- 2 (L6)

- (c) (i) light from the Sun
- 1 (L6)
- reflects off Pluto and Neptune **or** the planets **or** them
- accept for two marks 'sunlight reflects off them'*
- award the second mark only for 'the Sun reflects off the planets'*
- 1

(ii) any **one** from

- it is smaller
accept 'it is small'
- it reflects less light
- it absorbs more light
accept 'it is darker and smaller'
*do **not** accept 'it is further away (from the Earth) '*
or 'it is further from the Sun'
*do **not** accept 'it is darker'*

1 (L6)

[6]

6

(a) (i) any **two** from

- light from the Sun
*do **not** accept 'light from the Sun and stars'*
- reflected from the moons' surfaces
*do **not** accept 'the Sun reflects off the surface'*
- travels from the moons to the eyes
*accept 'they reflect sunlight' for **both** marks*

2 (L6)

(ii) any **one** from

- they reflect different amounts of light
accept 'they have different albedos'
*accept 'some are dark' **or** 'they are different colours'*
- they are not the same size
accept 'one could be partly in the shadow of Jupiter
***or** another moon'*

1 (L7)

(b) 0.68

the unit is not required for the mark
accept answers from 0.65 to 0.70

1 (L7)

(c) the Sun
planets

both answers are required for the mark

1 (L6)

[5]